

Energy Efficiency Question 1: What are Michigan's current Energy Optimization standards, and what was the timeline for compliance? What is the compliance history?

Executive Summary

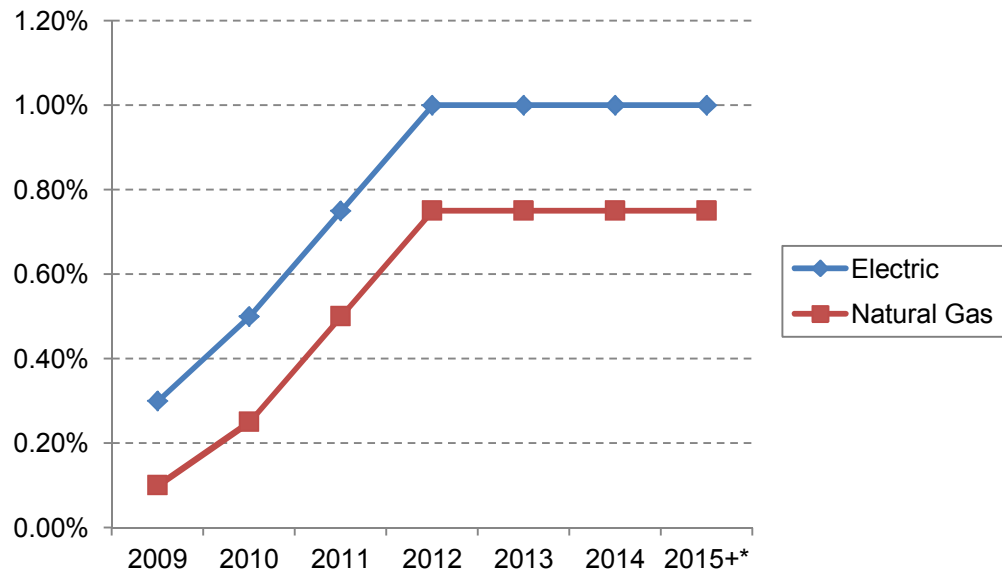
1. The energy optimization (EO), or energy efficiency, standards in PA 295 of 2008 require annual energy savings of 1.0% of retail sales for electric utilities and 0.75% of retail sales for natural gas utilities in 2012, and each year thereafter. The standards went into effect in 2009, and ramped up gradually each year to the 1.0%/0.75% level. The standards remain in place at the 2012 level in perpetuity unless superseded by future legislation or suspended by the MPSC according to the terms of PA 295. In 2015, the MPSC must file a report to the legislature recommending changes to the standard if needed and providing overall analysis of cost effectiveness of the state's programs.
2. Savings are achieved through programs offered by electric and natural gas providers (or the state-selected administrator) that encourage households, businesses, and institutions to reduce their energy consumption. This is typically done through marketing and rebates or incentives to reduce the cost of energy-saving measures, such as furnaces, air conditioners, insulation, appliances, motors, refrigeration, and lighting.
3. To effectively design and implement programs to meet the goals, electric and natural gas providers need certainty for the length of the plan once it is submitted and approved. Changing the measurements applicable to the goals mid-plan can create difficulty in achieving the plan and confusion when comparing savings over a longer period of time.
4. Compliance to date is on track, with EO programs exceeding the minimum required annual natural gas and electric savings in each of the first three years from 2009 to 2011. Although final data on 2012 savings are not yet available, savings are projected to exceed the annual target for 2012 as well. Programs will continue to operate through 2015 and thereafter, to achieve additional annual savings equivalent to the target in 2012, subject to any modifications by the legislature.

-
1. **The EO standards in PA 295 of 2008 require annual energy savings of 1.0% of retail sales for electric utilities and 0.75% of retail sales for natural gas utilities in 2012, and each year thereafter. The standards went into effect in 2009, and ramped up gradually each year to the 1.0%/0.75% level. The standards remain in place at the 2012 level in perpetuity unless superseded by future legislation or suspended by the MPSC according to the terms of PA 295. In 2015, the MPSC must file a report to the legislature recommending changes to the standard if needed and providing overall analysis of cost effectiveness of the state's programs.**

PA 295 of 2008 established standards for energy optimization, or energy efficiency, for natural gas and electricity providers in Michigan. The EO standards are outlined in considerable detail in Subpart B of PA 295 of 2008. Exhibit 1 illustrates the phase-in of the standards for natural gas and electric providers, beginning in 2009 and ramping up to 1.0% of annual electricity sales and 0.75% of natural gas sales in 2012, continuing annually thereafter at that level subject to review by the MPSC and the legislature. For 2012 and subsequent years, this equates to a savings of nearly one million megawatt-hours of electricity and 3.4 million Mcf (million cubic feet) of natural gas per year.

Energy Efficiency Question 1: What are Michigan's current Energy Optimization standards, and what was the timeline for compliance? What is the compliance history?

EXHIBIT 1. Electric and Natural Gas EO Standards, % of Sales



SOURCE: PA 295 of 2008.

*The MPSC is required to submit a report to the legislature in 2015 reviewing cost effectiveness with recommendations for legislation "providing for the continuation, expansion, or reduction" of the standards going forward.

The basis of the standard is "weather normalized"¹ sales from the preceding year or the average of the preceding three years, at the option of the provider and as specified in its EO plan filed with the MPSC. Energy savings are credited to providers based on "first-year savings," meaning that the provider counts the savings from the energy efficiency measures that are expected in the first year the measures are installed (not the total savings over the lifetime of the measure). Thus, even if an energy-efficient furnace has a life of 15 years and provides savings throughout that time period, only the first year of savings count for purposes of compliance with the EO standard.

The standards apply to investor-owned and municipally owned utilities and electric cooperatives. Alternative energy suppliers (AESs) are exempt, and their customers can access programs offered through the distribution utility.

There are caps on the amount that can be spent on the programs as well as cost-effectiveness reviews. The cap is 2% of the provider's total retail sales revenue (the cap is lower in years 2009—2011 to correspond with the lower savings target while programs were ramping up).

The statute requires the MPSC to review implementation of the EO programs and submit several reports to the legislature. These include an annual report on performance and whether the EO standards are cost effective and a March 2013 report on progress in reducing energy use. In addition, by September 30, 2015, the MPSC must file a report to the legislature recommending changes to the standard if needed and providing overall analysis of cost effectiveness of the programs. If the commission finds that a provider's EO plan is not cost effective, it may suspend the provider's program. In such a case, the provider must maintain cumulative incremental energy savings in subsequent years at the level actually achieved in the year prior to the MPSC's determination.

¹ Sales are adjusted for anomalies in weather, which affect sales from year to year.

Energy Efficiency Question 1: What are Michigan's current Energy Optimization standards, and what was the timeline for compliance? What is the compliance history?

- 2. Savings are achieved through programs offered by utilities or the state-selected administrator that encourage households, businesses, and institutions to reduce their energy consumption. This is typically done through marketing and rebates or incentives to reduce the cost of energy-saving measures, such as furnaces, air conditioners, insulation, appliances, motors, refrigeration, and lighting.**

Details on programs are included in the providers' EO plans and reports that document expenses and savings filed with the MPSC. In general, providers promote energy efficiency to all customer classes, including low-income customers, through marketing, education, and incentives. Customers can take advantage of the rebates through their contactor (for example, for furnace, electrical, refrigeration, or weatherization installation) or may be contacted directly by the utility to sign up for a program, such as an energy audit and installation of low-cost energy-savings upgrades.

The EO standards require reductions in overall energy consumption, measured in annual kilowatt-hours (kWh) of electricity or million cubic feet (or therms) of natural gas. This is different from demand savings that cut usage at specific times or shift when energy is used, such as at peak times.²

- 3. To effectively design and implement programs to meet the goals, natural gas and electric providers need certainty for the length of the plan once it is submitted and approved. Changing the measurements applicable to the goals mid-plan can create difficulty in achieving the plan and confusion when comparing savings over a longer period of time.**

EO programs are designed with considerable sophistication to influence customer behavior to adopt energy efficiency measures. Programs such as these deal with technical issues on how to calculate and verify savings, including the treatment of "free riders," or customers that take advantage of the program even though they would have taken the desired action (such as installing new insulation) without the incentive. PA 295 did not clearly specify how energy savings would be credited. Therefore, details on how to calculate savings and address free riders and other issues were developed by the MPSC and staff with input from stakeholders and considerable modifications over the past several years. For example, in three of the first four program years, three different methods for determining final savings have been used. These modifications include adjustments intended to address free ridership, such as the net-to-gross factor. The net-to-gross factor, currently set at 0.9, discounts the savings credited to the utility for compliance. Thus, for every 10 units saved, only 9 count toward compliance. Combined, these modifications are significant and make it more difficult to achieve (or exceed) the standard and ensure continuity in the program's operations for energy efficiency trade allies and customers.

In three of the first four program years, three different methods for determining final savings have been used.

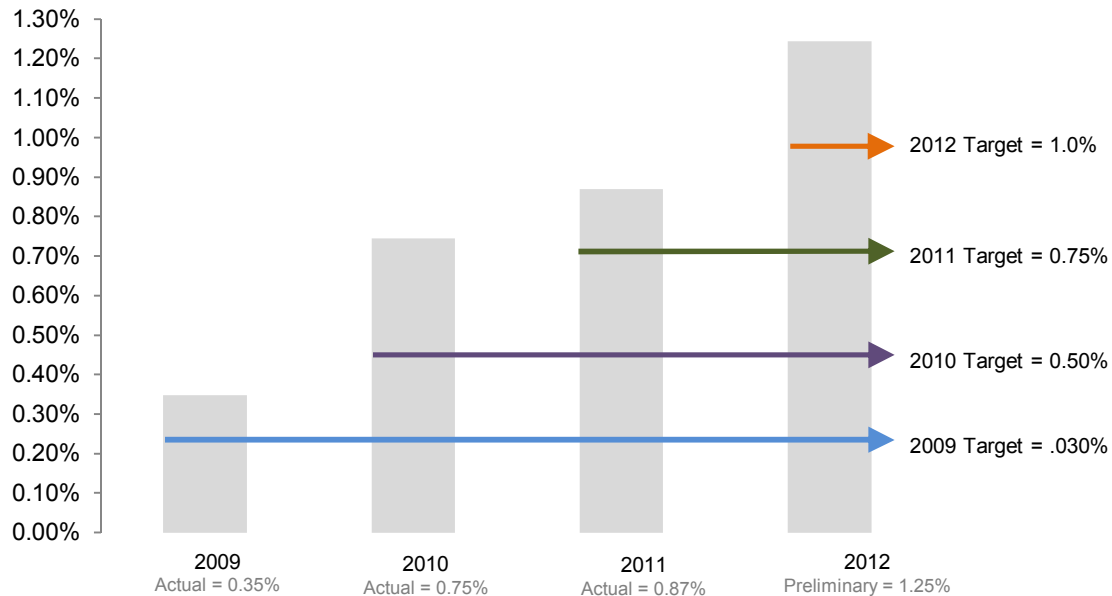
- 4. Compliance to date is on track, with EO programs exceeding the minimum required natural gas and electric savings in the first three years from 2009 to 2011. Although final data on 2012 savings are not yet available, savings are projected to exceed the standard as well.**

² Think of "energy" as the water flowing through the pipe and "demand" as the diameter of the pipe. In this example, energy savings would reduce the total water flowing through the pipe regardless of when it occurs. Demand savings could adjust when water flows so that it could fit through smaller pipe but it may not affect the overall water consumed over the course of a year. Energy efficiency programs can be designed to save energy, reduce demand, or both. In Michigan, the EO standards are based on energy savings but certain programs may also have the effect of reducing demand.

Energy Efficiency Question 1: What are Michigan's current Energy Optimization standards, and what was the timeline for compliance? What is the compliance history?

Despite the obstacles discussed above, providers have performed very well in meeting the EO standards each year.³ The annual standards have been exceeded from 2009 to 2011 and are projected to exceed the 2012 standard once all measurement and verification work is complete. Exhibit 2 depicts the standards or minimum savings requirements and the results for the first four years.

**EXHIBIT 2. Statewide Electric Savings, % of Retail Sales
Actual vs. Target 2009—2012**



SOURCE: MPSC, 2012 Report on the Implementation of PA 295 Utility Energy Optimization Programs, November 30, 2012; 2012 estimates from MPSC (March 2013).

Electric savings were 116% of the standard statewide in 2011, the most current year in which verified savings are available. Natural gas savings were 134% of the standard in this year. DTE Energy and Consumers Energy, given their share of the state and the breadth and reach of their EO programs, play a big part in the state's overall state performance. For example, Consumers Energy achieved 161% of its respective standard in 2011 and DTE Energy Gas achieved 117%.

³ For example, in the first year, DTE Energy Electric exceeded the EO standard by 39% and in 2010 by 78%. DTE Energy Gas saw similar results, exceeding the standard in the first year by 43% and by 94% in 2010. By 2011, a new factor was introduced called the installation rate adjustment factor, or IRAF. By applying IRAF to 2011's results, electric savings were reduced by 14% and gas by 9%. Still, the results exceeded the standard's by 53% for electric and 68% for gas. In 2012, based on the currently approved plans filed under cases U-17049 and U-17050, the MPSC approved the concept of a statewide net to gross factor of 0.9. This factor takes into account the balance of "free riders" who would have invested in energy efficiency regardless of DTE Energy's programs and customers who invested in energy efficiency as well as market changes that occurred due to the program's existence, but did not participate directly in the offered rebates or services DTE Energy's programs provide. This effect, plus the IRAF affect instituted in 2011 will reduce 2012 energy savings results by approximately 19% for electric and 16% for gas. With these discounts to the savings figures, the impact has begun to erode the ability for the utilities to far exceed the standards. DTE Energy estimates that electric will exceed the electric standard by 26% and the gas standard by 20% for 2012.

Energy Efficiency Question 1: What are Michigan's current Energy Optimization standards, and what was the timeline for compliance? What is the compliance history?

Participants in the state administrator option under MCL 460.1091, including all of the MEGA electric and natural gas utilities subject to the law, are not covered by the statutory standards as the providers do not administer their own programs. Instead, the statutory standards were incorporated as the performance requirements for the state administrator, Michigan Community Action Agency Association, d/b/a Efficiency United, under its contract with the State of Michigan. Efficiency United has been able to meet the standards on an aggregated basis for all participants under its programs, although a few of the utility-specific targets were not achieved while others exceeded the targets. Compliance by Efficiency United, including breakdown for each utility, is discussed in the MPSC's annual EO reports.⁴ Efficiency United anticipates that all of the MEGA electric and gas utilities will meet or exceed targeted energy savings for 2012 and 2013.

In summary, Michigan's EO standards had an aggressive pace for scaling up programs and delivering energy savings. Although performance is on track to date, there have been challenges with changing requirements for calculating energy savings as discussed above.

⁴ See Michigan Public Service Commission, *2012 Report on the Implementation of P.A. 295 Utility Energy Optimization Programs*, November 2012 (based on 2011 program information). Available at: www.michigan.gov/documents/mpsc/2012_EO_Report_404891_7.pdf. The 2011 report published in November 2011 covers Efficiency United's compliance for 2009/2010 program activities, and is available at: www.michigan.gov/documents/mpsc/EO_legislature_report2011_369985_7.pdf. Reports accessed 3-22-2013.